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Java Foundations

1-2

Java: A Brief History

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Objectives

- This lesson covers the following objectives:
 - Show examples of how people interact with Java in their daily lives
 - Summarize the history of Java
 - Understand Java technology product groups



25 Years of Java

- 2020 marks 25 years since the first version of Java was released for public use



Java Technology

- Java is the global standard for developing and delivering embedded and mobile applications, games, web-based content, and enterprise software
- Java enables you to efficiently develop, deploy, and use exciting applications and services
- From laptops to data centers, game consoles to scientific supercomputers, cell phones to the Internet, Java is everywhere!



Java's Place in the World

- Java is one of the most widely used development language in the world today
- Over 10 million developers say they spend at least some of their time developing in Java
- Java runs on 56 billion devices



Java's Place in the World



Java's Evolution

- Java is not standing still
- Java 8, released in 2014 brought Lambda expressions to the Java platform as well as the Stream API, Optional class, and a host of other great features
- This is one of the reasons why Java 8 became the most popular version in Java's history
- Even today, it remains one of the most widely used versions of Java
- But choosing Java 8 today prevents developers from gaining access to an immense amount of progress in the language, JVM, tooling, and more



Who is in charge?

- Oracle is the steward of the Java Programming language that is now considered open source
- Oracle is not the only source for updates
- The focus for updates is on:
 - Readability
 - Simplicity
 - One language with the same meaning everywhere
- Java has moved to a 6-month, time-based release cadence with a new feature release of Java becoming available like clockwork every March and September

Java Is Now in the Cloud!

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Now in the
Cloud

The Story of Java

- Once upon a time ...



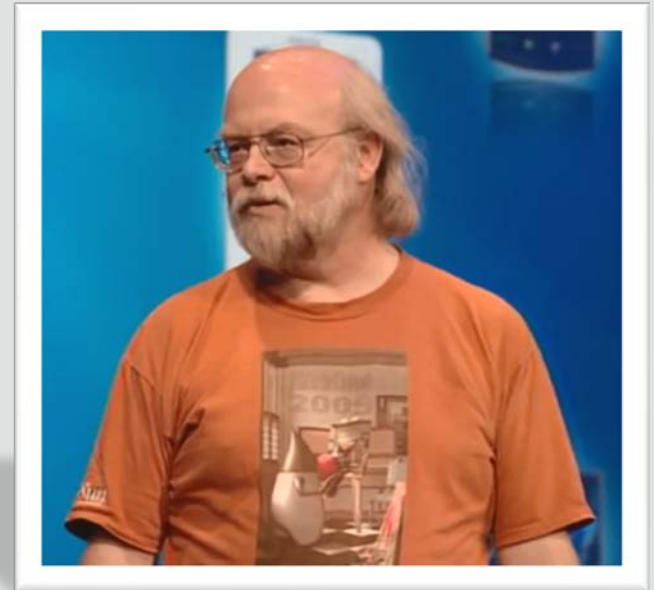
The Story of Java

- In 1990, Sun Microsystems began a research project to extend the power of network computing to consumer devices, such as video cassette recorders (VCRs) and televisions
- The belief was that the next wave in computing was the union of digital consumer devices and computers
- There were also frustrations with the use of the C/C++ language at Sun



The Story of Java

- The Green Team, a team of highly skilled software developers at Sun under the leadership of James Gosling, developed Java (originally called Oak) as their solution
 - Devices with different central processing units (CPUs) could be connected and share the same software enhancements through a single programming language



James Gosling is considered the "Father of Java"

The Story of Java

- This initial concept was ahead of its time, as several deals with consumer device companies were unsuccessful
- The Green Team was forced to find another market for their new programming language
- Fortunately, the World Wide Web was becoming popular and the Green Team recognized that the Oak language was perfect for developing web multimedia components to enhance webpages.

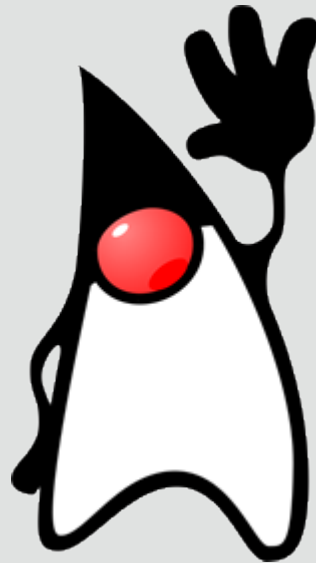
The Story of Java

- Initially, the Oak language was used for small applications, called applets, and programmers using the Internet adopted what eventually became the Java programming language
- The turning point for Java came in 1995, when Netscape incorporated Java into its browser
- Oracle acquired Sun Microsystems in 2010

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Duke, the Java Mascot

- Duke is Java's official mascot
- The original Duke was created by the Green Team's graphic artist, Joe Palrang



Java Version History

- JDK Alpha and Beta were released in 1995, followed by JDK 1.0 in 1996. JDK 6.0 was released in 2006
- Oracle acquired Sun Microsystems in 2010, and released JDK 7 in 2011, and JDK 8 in 2014
- Since JDK 11, Oracle release long-term support (LTS) versions of JDKs every 3 years, with JDK 11 in 2018, and JDK 17 in 2022

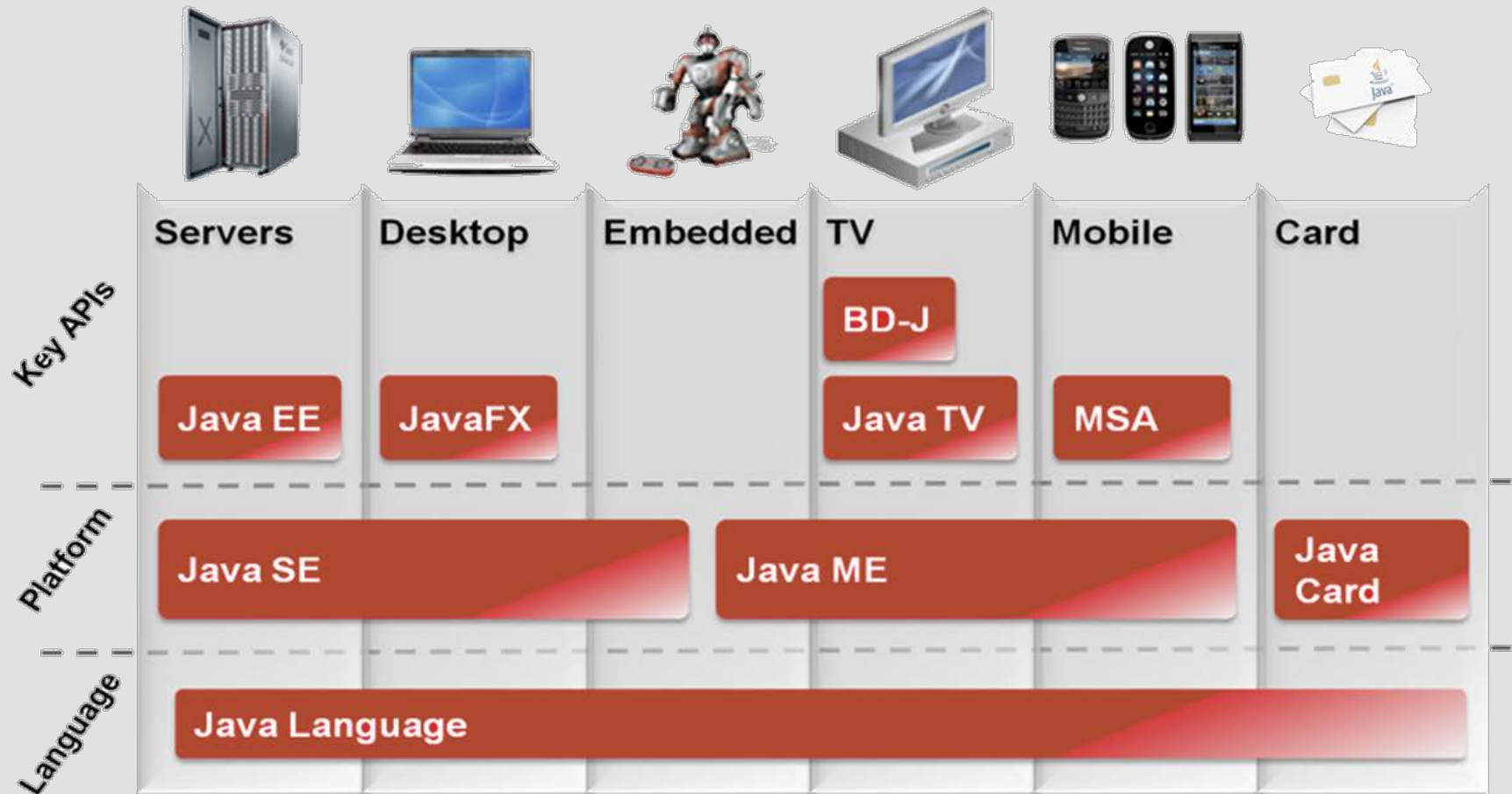


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Java Technology Product Groups

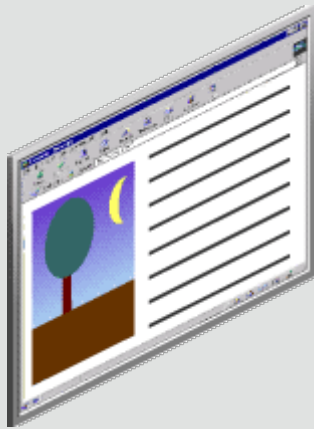
- There are four Java technology product groups and their target device types:
 - Java Platform, Standard Edition (Java SE)
 - Jakarta EE, formerly Java Platform, Enterprise Edition (Java EE)
 - Java Platform, Micro Edition (Java ME)
 - Java Card

Target Device Types



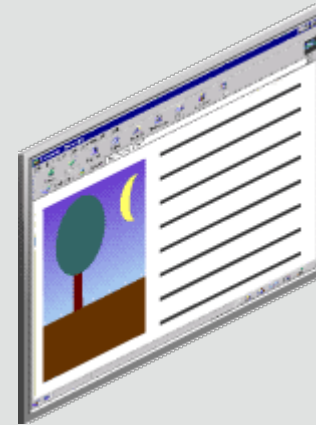
Java SE

- Is used to develop applications that run on desktop computers



Jakarta EE

- Is used to create large enterprise, server-side, and client-side distributed applications



Java ME

- Is used to create applications for devices with limited storage, display, and power capacities
- Is used to develop applications for mobile phones, PDAs, TV set-top boxes, smart cards, Raspberry Pi, and many more



Java Card

- 5 billion Java Cards are in use
 - It's used to create applications that can run securely on smart cards and similar small-memory devices
- Java Card is typically used in the following areas (and many more):
 - Identity
 - Security
 - Transactions
 - Mobile phone SIMs



Summary

- In this lesson, you should have learned how to:
 - Show examples of how people interact with Java in their daily lives
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